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**CITY OF MANDEVILLE**  
**Federal Emergency Management Agency**  
**Cooperating Technical Community**  
**Mapping Activity Statement #1 of 2**

**Agreement #CTC-01 – Redelineation of the City of Mandeville's Floodplain**  
**Boundaries Using Updated Topographic Data**

In accordance with the Cooperating Technical Community (CTC) Memorandum of Agreement dated June 5, 2000 between the City of Mandeville and the Federal Emergency Management Agency (FEMA), Agreement #CTC-01 is as follows:

**1. Objective and Scope:**

The objective of this Mapping Activity is to redelineate detailed floodplain boundaries in the City of Mandeville. Delineations will be of the 1% and 0.2% annual chance floods. The flood profiles and floodway data tables from previous Flood Insurance Study (FIS) report will be used, in conjunction with the hydraulic models used to prepare the FIS, to produce these delineations. Data collected will also include the City of Mandeville's current digital base map and the consulting engineer's most recent hydrologic and drainage studies.

The scope of this phase, CTC-01, will include the collection and evaluation of hydrology and hydraulic studies to be used for modeling purposes, which may or may not include: local H&H studies for new developments and improvements, drainage studies, current basin data or studies, before and/or after the last FEMA study.

**2. Period of Performance:**

This Mapping Activity will begin on October 1, 2000 and end no later than September 30, 2001. This CTC Agreement may be terminated at the option of FEMA or the City of Mandeville, in accordance with the provisions of the CTC Memorandum of Agreement dated June 5, 2000.

**3. Funding/Cost-Sharing:**

FEMA expects to be able to provide approximately \_\_\_\_\_ to the City of Mandeville under this CTC agreement and mapping activity. The City of Mandeville expects to provide a 25% match or \_\_\_\_\_ for staff contribution under this CTC agreement and mapping activity. The period of performance will be in accordance with Agreement Article II.

**4. Standards:** The following standards and documents are relevant to this Mapping Activity:

- Topographic mapping used to delineate the floodplain boundaries will be more recent and/or detailed than that used to prepare the effective FIRM for the City of Mandeville. It will be of adequate scale and topographic definition to provide reasonable accuracy and planimetric features will be compatible with the base map (with respect to horizontal accuracy) to be used by FEMA for Digital FIRM production. Topographic mapping taken from aerial photogrammetry or surveys will comply with the requirements of Appendix 4 of FEMA 37. The selection of the topographic mapping source to be used will be coordinated with the FEMA Project Officer prior to analysis and mapping.
- Changed hydraulic conditions and/or significant discrepancies in stream distance between the profile and topographic mapping indicate the need for updated hydraulic analyses and may preclude the completion of this Mapping Activity for some flooding sources. Therefore, prior to redelineating floodplain boundaries, the effective FIS flood profiles will be evaluated to determine:
  - if the flood elevations remain valid or if hydraulic conditions have changed such that the profile no longer represents existing conditions (i.e., bridge or culvert construction) necessitating updated hydraulic analyses;
  - if the flood profile baseline reasonably fits the streamline on the topographic mapping to be used for this activity.
- Work maps will comply with the requirements outlined in Chapter 9 of FEMA 37. The work maps should include the 1% and 0.2% annual chance floodplain boundaries; floodway limits; cross sections; and BFE and Flood Insurance Zone labels.
- Digital mapping submissions will comply with the requirements of Chapter 9 and Appendix 7 of FEMA 37.

**5. Products:** The Contractor shall make the following products available:

- Digitized topographic work maps depicting the revised 1% and 0.2% annual chance floodplain boundaries; floodway limits; cross sections; BFE and Flood Insurance Zone labels.
- Form number 5 of *Revisions to National Flood Insurance Program Maps, Application/Certification Forms and Instruction* (MT-2).

**6. Schedule of Milestones:**

The schedule of milestones is based timely acquisition of the LIDAR data and approval of the flood zones.

**Milestone 1:** Upon completion, products for the first milestone will be provided to the FEMA Project Officer. These include:

- Documentation of the proposed source of topographic data, including: scale; contour interval; source/methodology; date of survey/data collection; vertical and horizontal datums; and comparison of planimetric features with the Digital FIRM base map planned for use by FEMA.
- Documentation, using Quarter Quads, showing the changes in the City of Mandeville from the past FEMA study due to annexation of parish property into the city limits.
- A written assessment of the appropriateness of utilizing the FIS flood profiles for this Mapping Activity.
- An written evaluation of past Flood Insurance Studies for the City of Mandeville area.
- An written explanation of the of the topographic maps including Quarter Quads and other information contained within other mapping layers. By the probable use of Quarter Quads mapping for the base layers, it is the intent to supply FEMA with meta-data for the Quarter Quads.
- Annotated copies of effective FIRMs depicting limits of proposed floodplain revisions.

Deliverables for Milestone 1 will be submitted no later than 9 months after project start date.

**Milestone 2 (Final Product):** Upon completion, final products will be provided to the FEMA Project Officer. These include:

- Topographic work maps depicting floodplain zones using the WMS-Bosh International Program with LIDAR data. The HEC-2 models use the previous FIS map of cross-sections after evaluation and acceptance of data.

Documentation on the methodology for creation of new flood zones and completion of appropriate FEMA forms, form number 5 of *Revisions to National Flood Insurance Program Maps, Application/Certification Forms and Instruction* (MT-2).

Deliverables for Milestone 2 will be submitted no later than 10 months after project start date.

7. **Certification:** Topographic information will be certified by Louisiana State University CADGIS for accuracy of base map and preparation of Quarter Quads. CADGIS will be the primary point for preparation of the Digital FIRM. Through coordination with PBS&J of Maryland, panel layouts will meet required technical criteria for acceptance.
8. **Technical Assistance and Resources:** The City of Mandeville may obtain copies of effective FIS hydraulic models, FEMA-issued Letters of Map Change (LOMCs), and archived engineering back-up data from FEMA's Mapping Coordination Contractor (MCC)/ Technical Evaluation Contractor (TEC). The MCC/TEC may be contacted at 1-877-FEMA MAP. Specific technical and programmatic support may be provided through FEMA's MCC; such assistance should be required through the FEMA Project Officer specified in Section 12 of this Mapping Activity Statement.
9. **Subcontractors:**  
The City of Mandeville will subcontract portions of the work to the City's engineering consulting firm Meyer Engineers, Ltd. of Metairie, Louisiana. Meyer Engineers has been working with the City of Mandeville's Public Works Department since 1993. They are presently administering a Water Improvements Program for the City, which focuses on Mandeville's water distribution system.

In addition, the City of Mandeville will also subcontract portions of the work to Louisiana State University's Institute for Environmental Studies (IES). Associate Professor John C. Pine, Ed.D. will serve as the IES principal investigator. Dr. Pine, whose research interests include GIS applications in emergency management, is presently involved with a similar and more extensive CTC project encompassing the Amite River Basin Drainage and Water Conservation District.

Procurement of subcontractors using Federal funds provided as part of this Mapping Activity will comply with the requirements of 44 CFR 13.36.

**10. Quality Assurance/Quality Control (QA/QC) Procedures:**

The QA/QC procedures outlined in Chapter 10 of FEMA 37 should be followed during the development of the revised floodplain and floodway boundaries. The mapping should be independently reviewed for compliance with the standards defined in Section 4 of this Mapping Activity Statement.

The review of output will be conducted by Meyer Engineers, Ltd. and Louisiana State University in conjunction with the City of Mandeville administration.

**11. Reporting:**

(For FEMA Funded Agreements) Reporting requirements will be in accordance with Agreement Articles V & VI.


**12. Points of Contact:**

The FEMA Project Officer is Gary Zimmerer and the City of Mandeville's Project Manager is Wayne Berggren, or subsequent personnel of comparable experience who are appointed to fulfill these responsibilities.

Each part has caused this Task Agreement to be executed by its duly authorized representatives.

  
\_\_\_\_\_  
CTC Partner's authorized representative

9-5-00  
date

  
\_\_\_\_\_  
FEMA authorized representative

9-6-00  
date